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S/020/61/136/002/026/034
B004/B056

5.1190

2209

AUTHORS: Vasserberg, V. E., Balandin, A. A., Academician, and
Davydova, I. R.

TITLE: Formation of Radical-like Intermediary Forms of Surfaces in
Heterogeneous Catalysis

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 2,
pp. 377-380

TEXT: The formation of free radicals on the surface of catalysts is dealt with. The experimental material (Refs. 1-14) led many researchers to the assumption that heterogeneous catalysis takes place with the participation of free radicals loosely bound to the catalyst. However, no experimental proof has hitherto been obtained. To supply this proof, the reaction of isopropanol dehydration was chosen, because it takes place at low temperatures in the adsorbed layer, and thus the lifetime of the radical-like complexes could be expected to be longer than at high temperatures. As such complexes are characterized by unpaired electrons, the method was based upon proving their paramagnetism which accelerates

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Forms of Surfaces in Heterogeneous Catalysis

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the para-ortho transformation of hydrogen. In selecting the suitable catalyst, such were not found to be eligible as, like Al_2O_3 , were themselves active catalysts of p-o transformation. $MgSO_4$ was chosen as a catalyst of alcohol dehydration, because the latter does not activate the p-o transformation below $300^\circ C$, and thus does not produce any effect on this transformation at the dehydration temperature ($150-180^\circ C$). For each experiment, fresh $MgSO_4$ was used, because a regeneration could not be carried out (reduction and formation of H_2S in hydrogen at $300^\circ C$). A continuous-flow glass device was used for the purpose. The catalyst installed in it was annealed at $300^\circ C$ for 3 hours at 1.10^{-5} mm Hg. Before each experiment, the question was examined as to whether the catalyst itself did not bring about the p-o transformation. For this purpose, a mixture of 50% para- and ortho-hydrogen was in each case made to circulate at the temperature of dehydration in the apparatus, and samples were periodically taken, whose thermal conductivity was examined. For this purpose, a test tube made of molybdenum glass with a tungsten wire ($d = 20\mu$), which had a resistance of 300 ohms at room temperature, was used.

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Thereupon, evacuation was carried out to 1.10^{-5} mm Hg, and the ampoule with $i\text{-C}_3\text{H}_7\text{OH}$ was smashed by means of an electromagnet. All processes were carried out under exclusion of oxygen which was also paramagnetic. As soon as the alcohol had evaporated and been adsorbed, a 50% mixture of p- and o- H_2 was introduced, and after 10-15 min samples were taken for determining thermal conductivity. After the experiment had been completed, evacuation to 1.10^{-5} mm Hg again followed, and the inactivity of the catalyst alone with respect to p-o transformation was again tested with 50% p- and o- H_2 . Experimental results are given in Table 1. The following results were obtained: 1) The 50% p- and o- H_2 mixture undergoes no change in contact with the catalyst, with the vapors of the reaction products and of the alcohol in the absence of a catalyst. 2) In contact with the catalyst, on which the dehydration of the alcohol is carried out, a p-o transformation occurs, which attains 13.5%. This result is considered to be a direct proof of the formation of multiplet complexes with paramagnetic properties. The formation of such complexes is assumed also for other heterogeneous catalytic reactions. Proof is, however, rendered

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difficult by the authors' method because all catalysts used for hydrogenation and dehydrogenation catalyzed the p-o transformation of H_2 themselves but, in the case of catalytic oxidation, paramagnetic oxygen disturbs. Mention is made of N. D. Zelinskiy, V. V. Voyevodskiy, F. F. Vol'kenshteyn, N. N. Semenov, Ya. T. Eydus, S. Z. Roginskiy, M. I. Temkin, and S. L. Kiperman. There are 1 figure, 1 table, and 17 references: 15 Soviet, 1 Belgian, and 1 German.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: August 30, 1960

Legend to Table 1: a) Number of experiment; b) quantity of catalyst, g; c) temperature, $^{\circ}C$; d) quantity of initial alcohol, ml; e) duration of circulation, min; f) degree of ortho-para transformation; g) infinite.

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Formation of Radical-like Intermediary Forms
of Surfaces in Heterogeneous Catalysis

Table 1

М опыта а)	Колич. ката- лиз., г б)	Т-ра, °C в)	Колич. исходн. спирта, мл г)	Время циркуля- ции, мин. д)	Степень превра- щения, % е)
1	0	180	0,2	бескон.	0
2	0	200	0,4	"	0
3	3,3	150	0,0	"	0
	3,3	150	0,05	15	13,3
	3,3	150	0,05	бескон.	13,3
4	10,7	185	0,0	"	0
	10,7	185	0,4	15	13,5
	10,7	185	0,4	бескон.	13,5
5	11,0	187	0,0	"	0
	11,0	187	0,2	15	5,3
	11,0	187	0,2	бескон.	5,3
6	11,0	183	0	"	0
	11,0	183	0,4	15	13,2
	11,0	183	0,4	бескон.	13,2

Card 5/5

KIPERMAN, S.L.; NIKOLAYEVA, N.V.; DAVIDOVA, I.R.

Kinetics and mechanism of the dehydrogenation of isopropyl
alcohol in the liquid phase. Trudy Inst.khim.nauk AN Kazakh.
SSR 8:3-20 '62. (MIRA 15:12)
(Isopropyl alcohol) (Dehydrogenation)

DAVYDOVA, I.R.; KIPERMAN, S.L.; NIKOLAYEVA, N.V.

Kinetics of isopropyl alcohol dehydrogenation in the liquid
phase. Part 1. Kin. i kat. 4 no.4:605-613 JI-Ag '63.

(MIRA 16:11)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.

KIPERMAN, S.L.; NIKOLAYEVA, N.V.; DAVYDOVA, I.R.

Kinetics of isopropyl alcohol dehydrogenation in the liquid phase.
Part 2. Kin.i kat. 4 no.5:723-735 S-O '63. (MIRA 16:12)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.

L 11163-65 EIT(m)/EPT(c)/EPR/EMP(l)/T Po-h/Pr-h/Ps-h RNL/AFWL RM/MW/JH/WE

ACCESSION NR: AP4045796

S/0062/64/000/009/1591/1598

AUTHOR: Davydova, I. R.; Kiperman, S. L.; Slinkin, A. A.;
Dulov, A. A.

TITLE: Catalytic activity of certain synthetic organic polymers

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 9, 1964, 1591-1598

TOPIC TAGS: organic semiconductor, semiconducting polymer, catalyst, catalysis, polymethyl vinyl ketone, polydiethynylbenzene, pyrolyzed polymer, hydrogen ortho para conversion, hydrogen para ortho conversion, hydrogen deuterium isotope exchange

ABSTRACT: A study has been made of the catalytic activity of synthetic conjugated polymers in ortho-para and para-ortho conversion of hydrogen, and in hydrogen-deuterium isotope exchange. The polymers used were poly(methyl vinyl ketone) pyrolyzed in nitrogen at 570-1000C, and poly-p-diethynylbenzene, pyrolyzed in nitrogen at 500-600C; activated charcoal was used as a control. The two poly-

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ACCESSION NR: AP4045796

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mers showed catalytic activity in para-ortho conversion at 300—450C and in ortho-para conversion at -196C. These reactions were of the first order. The isotope-exchange reaction did not occur in the presence of the two polymers. Juxtaposition of the catalytic activity (reaction rate constants) for the two polymers with their physical properties such as electrical conductivity, activation energy for conduction, magnetic susceptibility, unpaired spin concentration, and specific surface suggests that para-ortho conversion proceeds via a mechanism which involves surface paramagnetic centers which are formed as a result of charge-transfer-complex formation. A. A. Balandin and A. M. Rubinshteyn are thanked for their interest in this research. Orig. art. has 5 formulas, 5 figures, and 1 table.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 29Dec

ENCL: 00

SUB CODE: 00, GC

NO REF SOV: 013

OTHER: 009

Card 1/2

L 29735-65 EWT(m)/EPF(o)/EWP(i)/EWP(t)/EWP(z)/EWP(b) Pc-4/Pr-1/Ad/Peb
 DIAAP/IJ1(o) JD,EW/HM
 ACCESSION NR: AP5006778 S/0195/6/006/001/013/0143 42
 AUTHOR: Davydova, I. R., Kiperman, S. L. 40
 TITLE: The effect of oxygen adsorption by a nickel catalyst and sintering of the 27
 catalyst on the kinetics of para-ortho-conversion and isotopic exchange reactions 11
 in hydrogen 1
 SOURCE: Kinetika i kataliz, v. 6, no. 1, 1965, 137-143
 TOPIC TAGS: oxygen, nickel, catalyst, hydrogen, isotope, isotopic shift, adsorp-
 tion, deuterium
 ABSTRACT: The adsorption of oxygen by a nickel catalyst was studied to determine
 its effect on the kinetic mechanisms of the para-ortho-conversion of hydrogen 1
 ($p\text{-H}_2 = o\text{-H}_2$) and of the isotopic exchange of hydrogen with deuterium ($\text{H}_2 + \text{D}_2 = 2\text{HD}$).
 The effects which were discovered were explained by the fact that oxygen is subject
 to stable adsorption only in those areas which have the highest adsorption capacity,
 but it diffuses from the remaining part of the surface into the surface layer of
 the catalyst. The results agree with those of studies on the adsorptive-chemical
 equilibrium of oxygen on the same catalyst. Sintering caused a sharp increase in
 the activation energy and a decrease in the rate of the reaction. "We express our
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L 39735-65

ACCESSION NR: AP5006773

deep gratitude to A. A. Balandin for his attention and interest with respect to the work." (orig. art. has: 5 tables, 6 equations)

ASSOCIATION: Institut organicheskoy khimii imeni N. D. Zelinskogo AN SSSR
(Institute of Organic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 05Jul68

ENCL: 00

SUB CODE: CC, IC

NO REF SERV: 012

OTHER: 012

Card 2/2

DAVYDOVA, I.R.; KIPERMAN, S.L. (Moskva)

Effect of poisoning of a nickel catalyst on the reaction rate
of γ -O-conversion of hydrogen. Zhur. fiz. khim. 39 no. 1:
18-20 Ja '65 (MIRA 19:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN
SSSR. Submitted July 11, 1963.

KIPERMAN, S.L.; DAVIDOVA, I.R.

The nature of adsorption of saturated hydrocarbons on metals.
Zhur. fiz. khim. 39 no. 1:262-263 Ja '65 (MIRA 19:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN
SSSR. Submitted July 11, 1963.

DAVYDOVA, I.S.; KOLOTILOVA, L.V.

Antidiphtherial immunity level in children following viral
influenza. Zhur.mikrobiol.epid. i immun. 30 no.5:85-86
My '59. (MIRA 12:9)

1. Iz L'vovskogo instituta epidemiologii, mikrobiologii i gigiyeny.
(INFLUENZA, immunol.
post-influenzal anti-diphtherial immun. in
child. (Rus))
(DIPHTHERIA, immunol.
same)

DAVIDOVA, I.S.

Use of the method of direct sowing of material from a tampon on a Petrie dish with tellurium and blood agar in the study of diphtheria.
Lab. delo 6 no.4:46-47 J1-Ag '60. (MIRA 13:12)

1. L'vovskiy institut epidemiologii, mikrobiologii i gigineny.
(BACTERIOLOGY—CULTURES AND CULTURE MEDIA) (DIPHTHERIA)

DAVYDOVA, I.S.; KHENKINA, Ye.V.

Study of the reaction to and the immunological and epidemiological
efficacy of pertussis-diphtheria vaccine. Zhur.mikrobiol.epid.i
immun. 31 no.8:61-64 Aug '60. (MIRA 14:6)

1. Iz L'vovskogo instituta epidemiologii, mikrobiologii i gigiyeny
i L'vovskogo instituta okhrany materinstva i detstva.
(WHOOPIG COUGH) (DIPHTHERIA)

DAVIDOVA, I.S.; BIRKOVSKIY, Yu.Ye.; KALITSEVA, L.I.; KOLOTILOVA, L.V.;
TURETSKAYA, E.S.

Diseases caused by S.Breslau. Zhur.mikrobiol. epid. i immu. 32
no.4:143 Ap '61. (MIRA 14:6)

1. Iz L'vovskogo Instituta epidemiologii, mikrobiologii i gigiyeny.
(SALMONELLA)

SEREDAVIN, D.G.; KONNOV, F.Ya.; YUSHEVICH, G.I.; SILINA, L.D.; MOISEYEVA, Ye.I.; HLAGODAROVA, T.N.; BIRYUKOVA, M.S.; SOLOVEY, I.I.; REVIZOVA, V.Ye.; YEVPRINTSEVA, Z.A.; DAVYDOVA, I.V.; SAVICHEVA, Z.N.; KHAUSTOVA, A.K., tekhn.red.

[Economy of Kuybyshev Province for 1958-1959; statistical collection]
Narodnoe khoziaistvo Kuibyshevskoi oblasti za 1958-1959 gody; statisticheskii sbornik. Kuibyshev, 1960. 174 p.

(MIRA 14:1)
1. Kuybyshevskaya oblast'. Statisticheskoye upravleniye. 2. Nachal'-nik Statisticheskogo upravleniya Kuybyshevskoy oblasti (for Seredavin).
3. Statisticheskoye upravleniye Kuybyshevskoy oblasti (for all, except Khaustova).
(Kuybyshev Province--Statistics)

POPOV, Viktor Mikhaylovich; DAVYDOVA, Iraida Vasil'yevna; VLADIMIROV, N.M.,
red.; VORONIN, K.P., tekhn. red.

[Burning of lignite with a high moisture content in the furnaces of
steam boilers] Szhiganie vysokovlazhnykh burykh uglei v topkakh
parovykh kotlov. Moskva, Gos. energ. izd-vo, 1960. 143 p.
(MIRA 14:9)

(Lignite)

(Furnaces)

DAVYDOVA, I.V.; DELYAGIN, G.N.

Some properties of water-coal suspensions. Trudy IGI 19:131-137 '62.
(MRA 16:4)
(Coal) (Suspensions (Chemistry))

DAVYDOVA, I. V.; DELYAGIN, G. N.; KANTOROVICH, B. V.; LEVANEVSKIY, V. S.

"Experimental investigation of combustion of water-coal suspensions in an air flow."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Inst of Combustible Minerals.

DAVIDOVA, I.V.; POPOV, V.M.

Reactivity of coals. Trudy IGI 19:174-177 '62.
(Coal—Testing)

(MIRA 16:4)

S/181/63/005/004/022/047
B102/B196

AUTHORS: Vul, E. M., Zavaritskaya, E. I., and Davydova, I. V.

TITLE: Low-temperature breakdown of thin layers of germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 4, 1963, 1107 - 1113

TEXT: The d-c breakdown of Ge films ($2 - 3\mu$) was investigated at 4.2°K for two series of Ga-doped Ge (p-type) samples differing in their degree of compensation: (a) $N_A = 1.4 \cdot 10^{14} \text{ cm}^{-3}$, $N_D \approx 1.5 \cdot 10^{13} \text{ cm}^{-3}$, $K = N_D/N_A \approx 10\%$; (b) $N_A \approx 3.6 \cdot 10^{15} \text{ cm}^{-3}$, $N_D \approx 3.0 \cdot 10^{15} \text{ cm}^{-3}$, $K \approx 80\%$. The donor and acceptor concentrations were determined from the temperature dependence of the Hall constant, and K was determined from $N_A/N_D = (p_1/p_2 - 1)^2$ (cf. Brit. J. of Appl. Phys., 8, 340, 1957). Samples with different K showed different volt-ampere characteristics: those of the weakly compensated Ge show a sharp increase of current and breakdown at $E_b \approx 5 \text{ v/cm}$, with the highly compensated Ge, breakdown sets in at much higher field strengths and is accompanied by a decreasing volt-ampere characteristics. For Ge with $K \approx 80\%$, $E_b/E_A = 1.7$.
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S/181/63/005/004/022/047
B102/B186

Low-temperature breakdown of...

E_a being the field strength at which the breakdown is sustained, E_b that at which it sets in. For Ge with $K \approx 10\%$, E_b is almost independent of thickness and equals 5 v/cm up to 20 μ , even when the voltage is reduced to 10 mv. For thicker and more highly compensated samples $E_b = 22$ v/cm and

$E_a = 13$ v/cm. With thicknesses of 2 - 3 μ the breakdown voltage (U_b) is almost equal to the impurity ionization potential (U_i) and E_b remains virtually constant down to these small thicknesses. When the thickness is further reduced U_b remains constant and equal to U_i ; For samples with $K \approx 10\%$, $(U_b - U_i)/U_i \ll 1$. U_b was measured with 24 samples of purer germanium films (3 μ): 20 of it had a U_b of 10-11 mv, for four U_b was lower than U_i by 2-4 mV. When for the latter T was reduced to 1.8°K U_b rose and approached U_i . This indicates that the steep current increase cannot be explained by tunnelling, but by an injection effect. There are 9 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedev, AN SSSR Moskva (Physics Institute imeni P. N. Lebedev AS USSR, Moscow)

Card 2/3

Low-temperature breakdown of...

S/181/63/005/004/022/047
B102/B186

SUBMITTED: November 14, 1962

Card 3/3

DAVYDOVA, I.V., veterinarnyy vrach

Cotylophoron vigisi, a new helminth of cattle in the Maritime
Territory. Trudy VIGIS 10:3-5 '63. (MIRA 17:9)

PIKOV, A.M., prof.; DAVYDOVA, I.V., veterinarnyy vrach

Contemporary principles of studying the causative agents of
paramphistomiasis of ruminants in the U.S.S.R. Trudy VIGIS
10:15-26 '63. (MIRA 17:9)

USSR / Farm Animals. Cattle.

Q-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54741.

Author : Davydova, K. F.

Inst : ~~Not given.~~

Title : On the Growth and Development of the Young
Hybrids of the Red Steppe and Shorthorn Breeds
and the Prospects of the Increase of Their Pro-
ductivity.

Orig Pub: Tr. Novocherkasskogo zootekhn.-vet. in-ta, 1957,
vyp. 10, 35-42.

Abstract: No abstract.

Card 1/1

DAVYDOVA, K.F., Cand Agr Sci—(disc) "Growth and development of young
~~high~~ *hybrids* breeds of the red steppe and shorthorn stock." Yerevan, 1958. 21 pp
(Min of Agr USSR, Yerevan Zoo-Vet Inst), 150 copies (11,31-58,105)

- 78 -

DAVYDOVA, K.I.; NIKOLAYEV, I.N.

Chemical and technical properties of coal from the Tunguy Depression.
Izv.Sib.otd.AN SSSR no.4:28-37 '61. (MIRA 14:6)

1. Institut gornykh iskopayemykh AN SSSR, Moskva.
(Tunguy Valley—Coal)

DAVYDOVA, K.I.

~~DAVYDOVA, K.I.~~
Coals of the Aldan (South Yakut) Basin as a possible raw material
for obtaining metallurgical coke. Sov. geol. no.62:127-142 '57.
(MIRA 11:6)

1. Institut goryuchikh iskopyaynykh AN SSSR.
(Aldan Basin--Coal--Analysis)

NIKOLAYEV, I.N.; STEPANCHIKOV, A.A.; DAVYDOVA, K.I.; KOZLOVA, N.I.;
KALINKINA, V.A.; SMIRNOVA, M.T.

Method for the direct determination of the coking capacity of coals
and charges. Koks i khim. no.11:9-15 '60. (MIRA 13:11)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal---Testing) (Coke)

DAVYDOVA, K.I. (MOSKVA); SMIRNOVA, M.I. (Moskva); KALINKINA, V.A. (Moskva);
SPEFANCHIKOV, A.A. (Moskva)

Chita Province coals as possible raw materials for the metal-
lurgical industry of Transbaikalia. Izv. AN. SSSR. Otd. tekhn.
nauk. Met. 1 topl. no.2:163-169 Mr-Apr '61. (MIRA 14:4)
(Chita Province---Coal mines and mining)
(Transbaikalia---Metallurgical plants)

ONUSAYTIS, B. A.; NIKOLAYEV, I. N.; DAVIDOVA, KI I.; KULIKOVSKAYA, A. V.;
PETROVICH, A. I.

Characteristics of some Eastern Siberian coals. Trudy IGI 17:
121-128 '62. (MIRA 15:10)

(Siberia, Eastern—Coal)

KOLBANOVSKAYA, A.S.; DAVYDOVA, A.R.; DAVIDOVA, K.I.

Aging mechanism of bitumens of various structures. Dokl. AN
SSSR 165 no.2:376-379 N '65. (MIRA 18:11)

1. Gosudarstvennyy vsesoyuznyy dorozhnyy nauchno-issledovatel'skiy institut. Submitted April 15, 1965.

KOLBANCYKAYA, A.S.; SASSAY, O.Yu.; Principali uchebnye: DAVYDOVA, A.R.;
DAVYDOVA, K.I.

Structure formation of road bitumens. Dokl. AN SSSR 165
no.4:882-885 D '65. (MIRA 18:12)

1. Submitted April 15, 1965.

Country : USSR

E

Category: Virology, Bacterial Viruses (Phages)

Abs Jour: Ref Zhur-Biol., No 23, 1958, 103487.

Author : Rappo, F. I.; Zobnina, K. S.; Kuznetsova, V. K.;
Davydova, K.P.; Dunayeva, N. N.

Title : Development of Methods for Obtaining Highly Active
Dysentery Bacteriophage with Consideration of the
Microbial Environment in a Focus.

Orig Pub: Sb. Bakteriofagiya. Tbilisi, Gruzmedgiz, 1957,
159-161.

Abstract: Polyvalent dysentery polyphage was prepared by means
of adaptation to freshly-isolated cultures (six months
old) belonging to representatives of various serolo-
gical types. The polyphage obtained lysed 94 o/o of
200 cultures tested. Of 80 patients treated with the

Card : 1/2

DAVYDOVA, L.

DAVYDOVA, L. "On the active peripheral circulation of the blood," (A survey report) In the symposium: Doklady II Obshchebak. nauch. studench. konf-tsii, Baku, 1949, p. 143-52

SO: U-5240, 17Dec53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

DAVYDOVA, I.A.; PANTELEYEVA, N.F.; YASTUKEVICH, S.M.

Certain flotation properties of stannite. Izv. vys. ucheb. zav.;
tsvet. met. 2 no.3:37-43. '59. (MIRA 12:9)

1. Moskovskiy institut tsvetnykh metallov i zolota, Kafedra
obogashcheniya poleznykh iskopayemykh.
(Stannite) (Flotation)

VAKHRUSHEV, I.A.; DAVIDOVA, L.A.

Testing the performance of the risers of the inner cyclones in fluid-
bed drying apparatus. Khim. prom. 40 no.9:697-704 S '64. (MIRA 17:11)

DAVYDOVA, L. G.

AID P - 1232

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 27/34

Author : Davydova, L. G.

Title : ~~THE INSTITUTE OF THE HISTORY OF NATURAL SCIENCE AND~~
Engineering of the Academy of Sciences of the USSR.
(Current Events)

Periodical : Elektrichestvo, 12, 81-82, D 1954

Abstract : In June 1954, at the meeting of the Institute, the book by
M. I. Radovskiy Boris Semenovich Yakobi, Biographical
Sketch was discussed. The book was severely criticized and
general remarks concerning books in the field of engineer-
ing history were accepted. It was decided to submit manu-
scripts to criticism before their publication in order to
eliminate the need for severe criticism of books already
published.

Institution : None

Submitted : No date

DAVIDOVA, I.G.; RODIONOV, V.M.

Nikola Tesla (on the occasion of the 100th anniversary of his birth).
Vent. AN SSSR 26 no.7:90-93 J1 '56. (MLRA 9:9)
(Tesla, Nikola, 1856-1943)

DAVIDOVA, L.G.

DAVIDOVA, L.G.

M.A. Shatelen; obituary. Vop. 1st. est. i tekhn. no. 4:215-217 '57.
(Shatelen, Mikhail Andreevich, 1865-1957) (MIRA 11:1)

DAVYDOVA, L.G.
DAVYDOVA, L.G.

~~History of the development of automatic control in the U.S.S.R.~~
"History of the development of automatic control in the U.S.S.R.
period before the October Revolution" by A.V. Khranoi. Reviewed by
L.G. Davydova. Vop.ist.est. i tekhn. no.5:214 '57. (MIRA 11:2)
(Automatic control) (Khranoi, A.V.)

SOTIN, B.S.; DAVIDOVA, L.G.

Russian congresses on electrical engineering. Trudy Inst.1st.
est.1 tekhn. 26:3-100 '59. (MIRA 13:5)
(Electric engineering--Congresses)

DAVYDOVA, Lyudmila Georgiyevna; GALKIN, Ya. P., otv. red.; KOBRANSKAYA,
R.M., red. izd-va; POLYAKOVA, T.V., ~~otv.~~ red.

[Means of protection against electric overvoltages] Sredstva za-
shchity ot elektricheskikh perenapriazhenii; istoricheskii
oчерk. Moskva, Izd-vo Akad. nauk SSSR, 1961. 92 p.

(MIRA 15:5)

(Electric protection)

DAVIDOVA, L.G.

History of the electrification of power processes in industry in
the U.S.S.R. Trudy Inst. ist. est. i tekhn. 44:116-160 '62.
(MIRA 18:3)

S/196/62/000/004/008/023
E194/E155

AUTHORS: Avrutin, A.D., Davydova, L.I., Lavrova, D.S., and
Renne, V.T.

TITLE: An investigation of certain factors that influence
the development of ionising processes in the
dielectric of paper-oil capacitors

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika,
no.4, 1962, 7, abstract 4 B27. (Izv. N.-i. in-ta
postoyan. toka, no.7, 1961, 231-241)

TEXT: The intensity of ionisation was assessed by measuring
the rate of impulses (discharges). A schematic diagram of the
equipment is given. To investigate the relationship between the
intensity of ionisation and the field strength the latter was
raised in steps of 2.5 kV/mm with a delay of 60 sec at each step.
The experimental capacitors were of the following characteristics.
Paper - type KOH-II (KON-II), thickness 10 microns and width
60 mm; number of layers 4, 5, 6 and 8; capacitance about 0.1
microfarads; impregnated with capacitor oil. The mean electrical
Card 1/2

DAVYDOVA, L.I.

Study of the excretion of catechol amines in atherosclerosis.
Vrach. delo no.6: 33-35 Je'63. (MIRA 16:9)

1. Kafedra gospiatal'noy terapii lechebnogo fakulteta (zav. prof. L.T.Malaya) i kafedra biokhimii (zav. - chlen-korrespondent AN UkrSSR, prof. A.M.Utevskiy) Khar'kovskogo meditsinskogo instituta.
(ARTERIOSCLEROSIS) (ADRENALINE) (NORADRENALINE)

DAVIDOVA, L.Kh.

Morphological characteristics of oncological material. Zdrav. Turk.
4 no.5:13-17 S-O '60. (MIRA 13:12)

1. Iz kafedry patologicheskoy anatomii (nav. - prof. O.Ya. Reshabek)
Turkmenakogo gosudarstvennogo meditsinskogo instituta imeni I.V.
Stalina.

(ONCOLOGY)

DAVYDOVA, L.M.

DAVYDOVA, L.M. (Mukachevo)

Morphology of the thyroid gland in fetuses and newborn infants in Transcarpathian Province [with summary in English]. Probl.endok. i gorm. 3 no.5:93-104 S-O '57. (MIRA 11:1)

1. Iz Zakarpatskogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir. - kandidat meditsinskikh nauk Ya.V. Stovbunenko-Zaichenko)

(THYROID GLAND, pathology

in fetuses & newborn inf. in regions of endemic goiter (Rus))

(GOITER, pathology,

endemic, thyroid histopathol. in fetuses & newborn inf. in endemic goiter regions (Rus))

DAVYDOVA, L. M. Cand Med Sci -- (diss) "Morphology of the thyroid gland and the development of Beclard's nuclei of ossification in fetuses and newborn ^{infants} ~~babies~~ of Zakarpatskaya Oblast." Kiev, 1958. 16 pp (Kiev State Order of Labor Red Banner Med ^{ist} ~~ist~~ im Academician A. A. Bogomolets), 200 copies (KL, 41-59, 106)

DAVIDOVA L.N.

BOL'SHIKH, S.F.; DAVYDOVA, L.N.

Seismic logging of shot wells. Razved. i prom. geofiz. no.19:16-22 '57.
(Russian Platform--Seismic waves) (MIRA 10:11)

8(0)

SOV/112-59-5-9652

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 171 (USSR)

AUTHOR: Davydova, L. N.

TITLE: Experience With Electric Simulation of Hydraulic Conditions in Room-Heating Systems

PERIODICAL: Tr. Leningr. inzh.-ekon. in-ta, 1957, Nr 19, pp 184-193

ABSTRACT: Equipping room heaters (radiators) with automatic controllers changes the resistance of the local heating system; this results in a variation in the mixing factor of the "elevator" installed at the service entrance and in a variation of hydraulic conditions in the system. An electronic simulator intended for designing hydraulic conditions in complicated thermal networks was used for analyzing the hydraulic conditions in room-heating systems. A two-pipe heating system with two 4-story uprights comprising 8 radiators was simulated. Gravitational head was neglected. Rate of water flow in the local heating system with various numbers of radiators and with their different resistances was determined. Seven illustrations. Bibliography: 6 items.

N. M. Z.

Card 1/1

DAVYDOVA, L.M., inzh.

~~Selection of the optimum calculated temperature of return water~~
for district-heating systems. Elek.sta.29 no.3:28-31 Mr '58.
(Hot-water heating) (MIRA 11:5)

DAVYDOVA, L.M., insh.

Possible areas of application of single-pipe district
heating systems. Elek.sta. 31 no.4:36-41 Ap '60.
(MIRA 13:7)

(Heating from central stations)

DAVIDOVA, I.N.

Trends in the use of atomic electric power plants in consolidated power systems. Sbor. rab. po vop. elektromekh. no.10:15-22 '63. (MIRA 17:8)

DAVIDOVA, L.N.

GUDTSOV, N.T., akademik, redaktor; DAVYDOVA, L.N., sostavitel';
PSHCHENKOVA, G.V., sostavitel'.

[Structural steels; reference book] Konstruktsionnye stali
(spravochnik). Pod nauchnoi red. N.T. Gudtsova. Moskva, Gos.
nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallur-
gii. Vol. 1. 1947. 481 p. (MIRA 7:1)
(Steel, Structural--Tables, calculations, etc.)

CA DAVYDVA, L. N.

Hardenability of structural steels. L. N. Davydova.
Stal 6, 1007-15(1948).—The hardenability of structural
Cr, Cr-Mo, V, Al, Mo-Si, Ni, and Cr-Ni was detd. and
the results plotted for standard steels and for steels with
allowable max. and min. deviations of chem. compn.
M. Hosh

DAVYDOVA, L. N.

AUTHOR: Davydova, L.N., Engineer

28-4-9/35

TITLE: On Establishing Norms for the Tempering of Structural Steel
(Ob ustanovlenii norm prokalivayemosti dlya konstruktsionnykh
staley)

PERIODICAL: Standartizatsiya, 1957, # 4, pp 37 - 39 (USSR)

ABSTRACT: General information is given on the subject with reference to US experience, tables and "tempering bands" (Handbook SAE, 1952) (a graphic representation of hardness measured on specimens). No work of this kind has been done in the USSR, though some organizations possess related data. The roughly approximate norms available are given in the form of "bands" or tables, the latter especially adapted for designers. But the "bands" are plotted on the results of tests on only a few smeltings and without segregation as to originating plants. The widths of the bands are outlined only roughly; no practical check is made.

By investigation, it was found that tests on smeltings from the plant "Krasnyy Oktyabr'" give the widest "bands", from the plant "Dneprospetsstal'" - narrower "bands", and the "bands" suggested by NATI are the narrowest. Steel "12 XH3A" originating from the Chelyabinsk Metallurgical Plant and the plant "Elektrostal'", as well as from "Dneprospetsstal'" are

Card 1/2

AUTHOR: Davydova, L. N. : 133-58-5-24/31
TITLE: Some Characteristic Features of Nickel Steels
(Nekotoryye svoystva nikel'nykh staley)
PERIODICAL: Stal', 1958, Nr 5, pp 464-465 (USSR)
ABSTRACT: Changes in mechanical properties of nickel steel
with decreasing temperatures are discussed and compared
with carbon steels.
There are 3 figures and 6 references, 2 of which are
Soviet, 4 English.
ASSOCIATION: TsNIICM.

Card 1/1

Special Steels (Cont.)

SOV/3629

ture and properties of steel, steel corrosion and preventive measures, and the properties of chromium-nickel alloys. There are 120 references: 87 Soviet, 22 English, 9 German, and 2 French.

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Zotova, Ye.V. [Engineer]. On the Tendency of Chromium-Nickel-Molybdenum-Copper Steels Towards Intercrystalline Corrosion		295
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Special Steels (Cont.)

SOV/3629

Teymer, D.A. Alloys Replacing Molybdenum in the Radio Industry 398

Kal'ner, D.A. [Engineer]. Longitudinal Split of Music Wire in
Testing for Twisting and Nonuniform Plastic Deformation in Drawing 419

Morozova, Ye.S. Effect of Alloying Additions on the Structure and
Properties of Patented and Cold Drawn Carbon Wire 441

Zimina, L.N. [Engineer], and M.V. Pridantsev. Structural Changes
in Nickel-Base Alloys 472

AVAILABLE: Library of Congress

Card 6/6

VK/jb
6-6-60

DAVYIOVA, L.N., inzh.

High strength 30KhGN structural steel. Sbor. trud. TSNIICHM no.17:
64-79 '60. (MIRA 13:10)

(Steel, Structural)

DAVIDOVA, L.N., inzh.

Selecting steel for low-temperature service. Sbor. trud. TSNICHM
no.17:39-50 '60. (MIRA 13:10)
(Steel--Brittleness) (Metals at low temperatures)

GOL'DENBERG, A.A.; DAVDOVA, L.N.

Effect of the testing conditions on the results of testing on face specimens for hardenability. Zav.lab. 26 no.9:1090-1093 '60.

(MIRA 13:9)

1. Vsesoyuznyy zaochnyy mashinostroitel'nyy institut i Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P. Bardina.

(Steel--Testing)

PETROV, L.V.; DAVIDOVA, L.N.

Increasing the accuracy of time determination at correlative points.
Razved. i prom. geofiz. no.38:88-90 '60. (MIRA 14:3)
(Seismic prospecting)

MESHCHERINOVA, O.N., kand.tekhn.nauk; TRIFONOVA, T.N., inzh.; TORPANOVA, G.A., kand.tekhn.nauk; SMIRNOV, Ye.V., inzh.; BABAKOV, A.A., kand.tekhn.nauk; KAREVA, Ye.N., inzh.; ZHADAN, T.A., inzh.; TALOV, N.P., inzh.; TSYPKINA, Ye.D., kand.tekhn.nauk; DORONIN, V.M., inzh.; DAVIDOVA, L.N., inzh.; PRIDANTSEV, M.V., prof., doktor tekhn.nauk, red.; LIVSHITS, G.L., kand.tekhn.nauk, red.; HERLIN, Ye.N., red.izd-va; MURAYLOVA, V.V., tekhn.red.

[Steels with low nickel content; a handbook] Stali s ponizhen-
nym soderzhaniam nikela; spravochnik. Pod red. M.V.Pridantseva
i G.L.Livshitsa. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po
chernoi i tavetnoi metallurgii, 1961. 200 p.

(MIRA 14:12)

1. Direktor instituta kachestvennykh staley TSentral'nogo
nauchno-issledovatel'skogo instituta chernoy metallurgii im.
I.P.Bardina (for Pridantsev).

(Nickel steel)

DAVYDOVA, L. N. Cand Tech Sci -- "Parameters and fields of application of
single-pipe ~~electro-thermification~~ ^{thermification} systems." Len, 1961 (Min of Higher and Secondary
Specialized Education RSFSR. Len Polytechnic Inst im M. I. Kalinin). (KL, 4-61,195)

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28559

S/137/61/000/009/048/087

A060/A101

AUTHOR: Davydova, L. N.

TITLE: Choosing steel for use at low temperatures

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 9, 1961, 10, abstract 9I61,
("Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii", 1960, no. 17,
39-50)

TEXT: One of the main reasons for the increase in the danger of troubles and breakdowns in machines at low temperatures is the redistribution and considerable increase of stresses, caused by the lowering of temperature. The capacity of metal for plastic deformation in structures and machines operating under conditions of low temperature is limited firstly, by the rise of a three-dimensional state of stress at spots of stress concentration and secondly, by the lowering in the capability of the metal itself to deform plastically as result of a considerable increase of σ_s . Only polycrystalline metals with face-centered lattice retain their plasticity down to very low temperatures. Metals with body-centered lattice are brittle at low temperatures. Austenitic steels, possessing a face-centered lattice are very ductile at low temperatures, X

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A060/A101

Choosing steel for use at low temperatures

provided, of course, that the austenite does not undergo a transformation at these temperatures. Ferritic steels, having a body-centered lattice, are brittle at very low temperatures. By the study of the properties of a number of various alloyed structural steels at low and very low temperatures it was established that nickel-steel differs sharply from all other by its behavior at low temperatures. Ferritic Ni-steels possess the faculty of lowering the temperature threshold of brittleness as compared to plain carbon steels prepared and tested under the same conditions. The Ni dissolved in the α solid solution (ferrite or martensite), sharply changes the latter's properties. The presence of Ni in martensite not only makes it stronger by increasing the absolute values of its strength characteristics, but it also brings about a change in the relation between the σ_s and the brittle strength in the favorable direction. As the temperature is lowered the σ_b , σ_s , and the brittle strength increase, while ψ decreases in both carbon, and in Ni-steels. However, for a given drop in temperature the degree of change in σ_s for carbon steels is considerably greater than for Ni-steels. As the carbon content in the martensite of 3% Ni-steels is raised the ratio of the brittle strength to σ_s , beginning with 0.15% C content, changes in the unfavorable direction. The greatest cold resistance is shown by

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Choosing steel for use at low temperatures

low C Ni-steels of the 12H3 (12N3) type. They retain a sufficient capability for plastic deformation at the spots of stress concentration as the temperature is lowered.

T. Rummyantseva

[Abstracter's note: Complete translation]

Card 3/3

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D228/D301

4

(4)

AUTHORS: Bol'shikh, S. F., Gorbatova, V. P. and Davydova, L. N.

TITLE: Study of the kinematic and the dynamic characteristics of reflected and leading waves on layered-medium models

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1962, 21, abstract 3A176 (V sb. Prikl. geofizika, no. 30, M., 1961, 25-49)

TEXT: The authors give the results of theoretical studies of the correlations of the kinematic and the dynamic characteristics of reflected and leading waves for two- and three-layer ideally-elastic media with different parameters. The results of theoretical calculations are compared with the data of experimental investigations, carried out for different durofluid models of media with parameters close to the calculated. The cited graphs illustrate the good coincidence of theoretical and experimental curves for the dependence of the amplitudes of individual waves and the ratio of the amplitudes of different waves on the distance. It is shown that, in

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Study of the kinematic ...

the case of waves reflected and refracted at the same boundary under conditions of a homogeneous incumbent medium, the intensity of the reflected wave exceeds by several times the intensity of the leading waves. An interference-free leading wave is observed with those reflected from the sole of the bed of the thickness of the refracting layer exceeds by several times the length of the wave. If the thickness of the refracting layer is comparable with, or less than, the length of the wave, a complex interference wave, formed by the superimposition of the wave reflected from the layer's base upon the leading wave, is then observed; the intensity of the reflected wave thereby appears to be comparable with that of the leading wave, although it is greater in many cases. 15 references.

[Abstracter's note: Complete translation.]

S. /KFB
Card 2/2

DAVYDOVA, L.N.

Hardenability of structural steel. Stal' 21 no.6:551-557 Je '61.
(MIRA 14:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.

(Steel, Structural—Hardening)

DAVYDOVA, L.N.

Quality of structural steel refined in the ladle by liquid
synthetic slag. Stal' 22 no.10:939-944 0'62. (MIRA 15:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.

(Steel, Structure)

DAVYDOVA, L.N.

Effect of the tempering temperature on the hardness of 40 Kh steel.
Metalloved. i term. obr. met. no.5:18-20 My '63. (MIRA 16:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.
(Chromium steel--Heat treatment) (Hardness)

SHAPIRO, S.V.; DAVYDOVA, L.N.

Ferromagnetic 50/25 cycle frequency divider. Trudy GPI 19 no.3:87-88
'63. (MIRA 17:10)

VOINOV, S.G.; KOSOY, L.F.; MOROZENSKIY, A.I.; SAVEL'YEV, D.F.; SHALIMOV, A.G.;
KALINNIKOV, Ye.S.; SHATUNOV, S.F.; KIREYEV, B.A.; OKHAPKIN, S.I.;
DAVIDOVA, L.N.; IZMANOVA, T.A.

Refining a 100-ton open-hearth heat with a liquid synthetic slag
in the ladle. Stal' 24 no.7:599-604 J1 '64.

(MIRA 18:1)

L 55347-65 WT(1)/EWA(h) Feb 65

ACCESSION NR: AT5014627

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681.142.324

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B-1

AUTHOR: Bamdas, A. M.; Shapiro, S. V.; Iuvydyova, L. N.

TITLE: Strong, static, ferromagnetic frequency dividers 75

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki i vychislitel'noy tekhniki, 9th, Yerevan, 1963. Magnitnyye analogovyye elementy (Magnetic analog elements); doklady soveshchaniya, Moscow, Izd-vo Nauka, 1965, 133-137

TOPIC TAGS: lightweight frequency divider, static frequency divider, ferromagnetic frequency divider

ABSTRACT: Studies of single-phase and three-phase ferromagnetic 50/25 c, 50/12.5 c frequency dividers and 50/75 c, 50/125 c frequency multipliers have been carried out at the research laboratory of the department of electrical machines and instrumentation of the Gor'kovskiy politekhnicheskoy institut im. A. A. Zhdanova (Gor'kiy Polytechnic Institute). Tests showed that, contrary to deductions found in the literature (A. M. Bamdas, V. A. Kulnich, S. V. Shapiro, Statisticheskkiye elektromagnitnyye preobrazovateli chastoty i chisla faz, M. Gosenergoizdat, 1961), frequency halvers can be constructed with a low expenditure of active material.

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exceeding by only 3-4 times the material consumption of ordinary transformers. The small weight of the newly constructed dividers points to a very correct choice of the capacitance of the excitation capacitors and of the magnetizing force of the magnetization windings. The article presents the construction, operating principles, calculative elements, and properties of a single-phase ferromagnetic frequency halver, and the (single-phase)-(three-phase) frequency halver. Orig. art. has: 10 formulas and 3 figures.

ASSOCIATION: Gor'kovskiy politekhnicheskii institut im. A. A. Zhdanova (Gor'kiy Polytechnic Institute)

SUBMITTED: 18Dec64

ENCL: 00

SUB CODE: EC

NO REF SOV: 004

OTHER: 000

Card 2/2

L 00022-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b)/EWA(c) 3D

ACCESSION NR: AP5022573

UR/0129/65/000/009/0008/0013

669.14.018;669.054.11

AUTHOR: Davydova, L. N. 44,55

TITLE: Properties of machine steel treated with synthetic liquid slag in the ladle 13 44,55, 16

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 9, 1965, 8-13

TOPIC TAGS: machine steel, synthetic slag, plastic deformation, brittleness, electric steel 16

ABSTRACT: Machine steel which is treated with synthetic liquid slag while in the ladle displays an improved degree of plastic deformation, which makes it less susceptible to sudden brittle fracture when used in the machine elements performing under difficult conditions (presence of stress concentrators, impact loadings, low temperatures, etc.). In essence, this new progressive technique means that the refining of steel is performed in the ladle rather than in the furnace. The torrent of molten metal gushes into a ladle containing synthetic liquid slag (4-6% by weight of metal). Most of the other mechanical and physical

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ACCESSION NR: AP5022573

16 4
properties of such steel are then also improved. Its gas content (oxygen, nitrogen hydrogen) is lower or the same as in conventional electric steel, and the machine elements fabricated from it are more operationally reliable. What is more, this ladle-refined steel can be used to fabricate more intricately shaped machine parts with a lower risk of brittle fracture and its properties are independent of whether it is smelted in an electric furnace, an open-hearth furnace, or an oxygen converter. The introduction of this new progressive technique should result in a mass improvement in the quality of steels. The article does not present any details on the composition and techniques of production of "synthetic liquid slag." Orig. art. has: 3 figures, 3 tables.

ASSOCIATION: TsNIICHERMET 4455

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, MT

NO REF SOV: 002

OTHER: 000

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DAVYDOVA, L.N.

Reviewing the standard for hardenability tests.

Standartizatsiia 29 no.7:61-62 J1 '65. (MIRA 18:11)

ACC NR: AR6028422

SOURCE CODE: UR/0196/66/000/005/1034/1034 5

AUTHOR: Bamdas, A. M.; Shapiro, S. V.; Yemel'yanov, V. P.; Yevstigneyeva, T. A.;
Blinov, I. V.; Davydova, L. N.; Zakharov, N. V.; Makhin, Yu. I.; Roginskaya, L. Z.;
Prolov, V. T.

TITLE: Development work on static frequency changers in the Gor'kiy Polytechnic
Institute im. A. A. Zhdanov

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 5I205

REF SOURCE: Sb. Vses. nauchno-tokhn. konferentsiya po primeneniyu vysokoskorostn.
mashin s elektroprivodom povyshon. chastoty toka v nar. kh-vo. Ordzhonikidze, 1945,
47-51

TOPIC TAGS: frequency changer, frequency converter, frequency conversion

ABSTRACT: The Laboratory has developed static ferromagnetic quadruplers, octuplers,
and nonuplers with self-magnetization by flux intermediate harmonics, with single-
and 3-phase output; also, a 1.5-ratio frequency changer has been developed. Their
principal characteristics, power and weight data are reported. Specifically, the
weight of active material varies from 36 to 29 kg/kva for capacities 1-6 kva;
efficiency, 70-80%. With an input voltage variation of 90-110%, the quadrupler
voltage varies only by $\pm 5-8\%$. The output voltage of a negative-feedback-type
octupler varies only by $\pm 2\%$ with a load current varying from zero to 130% its

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UDC: 621.314.26

ACC NR. AR6028422

nominal value. The octupler output voltage can be regulated within $\pm 15\%$ by controlling its magnetization current. The efficiency of the 1.5-ratio frequency changer is 60--70%. It is capable of stable operation despite input voltage and load variations within $\pm 50\%$ of their nominal values. Four figures. Bibliography of 4 titles. S. Shapiro [Translation of abstract]

SUB CODE: 09

Card 2/2

DAVIDOVA, L.N.

Properties of structural steel treated in the ladle with liquid
synthetic slag. Metalloved. i term.obr.met. no.9:8-13 S '65.
(MIRA 18:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii
imeni I.P.Bardina.

DAVIDOVA, L. P.

DYMAN, Vladimir Konstantinovich, doktor sel'skokhozyaystvennykh nauk;
DAVIDOVA, Lidiya Pavlovna, kand. sel'skokhozyaystvennykh nauk;
KATSHEL'SON, S.M., red.; GUBIN, M.I., tekhn.red.

[Adequate feeding of farm animals] Polnotsennoe kormlenie sel'sko-
khozlaistvennykh shivotnykh. Moskva, Izd-vo "Znanie," 1957. 31 p.
(Vsesoyuznoe obshchetsvo po rasprostraneniю politicheskikh i
nauchnykh znani. Ser.5, no.24) (MIRA 10:11)
(Feeding and feeding stuffs)

5 (3)

AUTHORS: Samokhvalov, G. I., Zakharkin, L. I., SOV/20-126-5-28/69
Davydova, L. P., Khorlina, I. M.

TITLE: A New Synthesis of β -Ionolidenacetic Aldehyde (Novyy sintez β -ionolidenuksusnogo al'degida)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1013 - 1016 (USSR)

ABSTRACT: "9,13 dimethyl-7-(1,1,5 trimethyl-cyclohexene-5-y1)-octatriene 8,10,12 al 14; aldehyde C_{19} (I)" is an intermediate product of the β -carotene synthesis (Ref 1). The extension of the carbon chain of this compound by one atom and the creation of a conjugate system of double bonds renders the transition to stereo-isomeric retinal aldehydes possible, which corresponds to the vitamin A. The above mentioned chain-extension is based on the formation of cyanohydrins (Refs 2,3). For the reduction of the nitriles, arising after the dehydration, di-isobutyl-aluminum hydride (Ref 4) could be used. The authors describe a realisation of this method with reference to a simple example: The synthesis mentioned in the title (Ref 5) of 7-(1,1,5 trimethyl-cyclohexene-5-y1)-9-methyl butene-8-al-10 of β - C_{14} al-

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A New Synthesis of β -Ionolidenacetic Aldehyde

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dehyde (II) (see scheme). The interaction between aldehyde C₁₄ (II) with acetone-cyanohydrine takes place under the influence of a methanol solution of potash at 20-23°. The oxy-nitrile yield (III) amounts to 83-84%. By the reduction of the nitrile- β -ionolide-acetic-acid (Fig 1) (IV) the substance mentioned in the title (V) was produced as a stereo-isomeric mixture, and was isolated. In the crystallization of the semi-carbazones of the stereo-isomeric-aldehydes from alcohol trans- β -ionolide acetic aldehyde semi-carbazone was obtained (melting point 195.5°-196° Refs 7,8), and a far smaller quantity of the cis-isomers (melting point 173-174°). A far-reaching agreement of the maxima of the ultra-violet absorption spectra of the carbazones of the isomeric aldehydes (Fig 2) allows the conclusion that the isomery is caused by a deviation of the position of the substituents with regard to the newly formed, sterically not impeded, double-bond of the carbon atoms 9-10. Out of the carbazone of the trans- β -ionolide-acetic aldehyde free aldehyde was obtained. The infrared spectrum (Fig 3) is characteristic of substances with a trans-position of the substituents at the double bond. Bands in the range of 6.25 μ belong to the

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oscillations of the system of conjugate double bonds, whilst those at 6μ correspond to the γ -oscillation C=O in the system with conjugate unsaturated bonds. Prof. N. A. Preobrazhenskiy showed interest in this investigation. There are 3 figures and 8 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut (All-Union Scientific Vitamin Research Institute). Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

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SAMOKHVALOV, G.I.; DAVYDOVA, L.P.; ZAKHARKIN, L.I.; KHORLINA, I.M.;
VAKULOVA, L.A.; ZHIKHAREVA, L.T.; PRIBORAZHENSKIY, N.A.

Synthesis studies in the field of polyene compounds. Part 17:
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(Nonatetraenal) (Olefins)

POPOV, I.S., akademik; SKOROBAGATYKH, N.N., kand. sel'skokhoz. nauk;
TKHAKAKHOV, Kh.Kh., kand. sel'skokhoz. nauk; DAVYDOVA, L.P.,
kand. sel'skokhoz. nauk; FESYUN, G.I., aspirant

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(STOMATOLOGY) (DENTAL CLINICS)

POPOV, I.S. [deceased], akademik; SKOROBOGATINI, N.F., kand. sel'skokhoz. nauk;
TRHAKAKHOV, Kh.Kh., kand. sel'skokhoz. nauk; DAVYLOVA, L.P., kand.
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Synthetic studies of polyene compounds. Part 23: Synthesis of
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to the Wittig reaction. Zhur. ob. khim. 34 no.12:3975-3979 D '64
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USSR/Farm Animals. Small Horned Cattle

Q-3

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 50022

Author : Popov, I.S., Deydyova L.S.

Inst : Moscow Academy of Agriculture imeni K.A. Timiryazov

Title : Mineral Substance Requirements by Pregnant Cows During Their Interlactation Period.

Orig Pub : Dokl. Akad. Nauk SSSR, 1957, vyp. 27, 208-212

Abstract : During the interlactation period (2 months) the first group of pregnant cows received 90 gr of digestible protein, 11.4 gr of Ca, and 6.2 gr of P per each feed unit. The second group of cows received the same amounts of nutrients, however, the rations were started during lactation, 2-3 months before calving. The third group of cows received 90 gr of protein, 7.8 gr of Ca, and 5.9 gr of P per each feed unit. Cow and calf weight indicators, as well as milk, colostrum, and blood compositions were taken into account. The dosages of minerals used in ration fed to the third group of cows assured safe

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DAVYDOVA, L.V., assistant; MARTYNOVA, O.I., kand. tekhn. nauk

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